

► THE PRACTITIONER'S TOOL KIT

Never a Dull Moment: The Life of an Institutional Environmental Health Professional

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Editor's Note: The National Environmental Health Association (NEHA) strives to provide relevant and useful information for environmental health practitioners. In a recent membership survey, we heard your request for information in the *Journal* that is more applicable to your daily work. We listened and are pleased to feature this column from a cadre of environmental health luminaries with over 300 years of combined experience in the environmental health field. This group will share their tricks of the trade to help you create a tool kit of resources for your daily work.

The conclusions of this column are those of the authors and do not necessarily represent the official position of NEHA, nor does it imply endorsement of any products, services, or resources mentioned.

Institutional environmental health is the oldest specialty of our profession, and sometimes the most complex. The environmental health professionals or sanitarians who practice in this area focus on special populations with unique demographic makeups, better known as patients, residents, inmates, military personnel, and students, among others. For comparison, this special population represents approximately 8.3 million individuals who reside in what the U.S. Census Bureau refers to as group quarters. While we do not have exact figures on the number of people who are tourists, visitors, and guests using non-group quarter institutional facilities, we can safely assume those numbers are several orders of magnitude higher.

Institutional environmental health professionals understand the built environment and their functions. These facilities are specifically constructed to accommodate the

many unique and special populations they serve. These facilities include, but are not limited to, hospitals; nursing, rehabilitation, and senior living facilities; military bases; hotels; schools; camps; colleges; cruise ships; group homes; shelters; and correctional facilities, as well as businesses such as office buildings, malls, casinos, and amusement parks. In short, the practice of institutional environmental health deals with a wide array of populations and building types that are both challenging and formidable.

For our purpose, we define an institution as any facility or establishment in which people live in or occupy for a specific purpose, such as receiving care or education, or separation from society in a confined setting (and often without individual consent), or pleasure, recreation, and work. We also define institutions by their unique population, mostly by a well-defined demographic.

As such, emphasis on environmental health and safety is often subsumed by the goals and objectives of that institution such as education, confinement, and treatment. So, by our definition, we have to meet the physiological, psychological, public health, and safety needs of that specific population without compromising the purpose of the institution.

On a historical note, our profession had its formal beginnings in institutional settings, specifically on military bases, correctional facilities, hospitals, and community housing. It began with the Chadwick Report of Great Britain of 1834. This report highlighted the appalling conditions—overcrowding, congestion, poverty, crime, ill health, and heavy mortality—that prevailed in the UK and were shown to be conditions commonly found together. This report resulted in the passage of an act in 1848 that provided for the establishment of a board of health. Similar conditions and efforts were duplicated in the U.S. These were stressed in a report by John C. Griscom in 1848 entitled, *The Sanitary Condition of the Laboring Population of New York*, as well as in a sanitary survey of Massachusetts authored by Lemuel Shattuck in 1850. The Shattuck report contained 50 specific recommendations relating to many facets of personal and public health. Collectively, these publications not only formed the basis of our current public health system but also the specialty of institutional environmental health and safety (Rosen, 2015).

Specific details of concern were highlighted in the UK prison ship reform of 1847. Formal recommendations on institutional care came from, among others, *Notes on Matters Affecting*

the Health Efficiency and Hospital Administration of the British Army by Florence Nightingale in 1855, *Quarantine Regulations* published by the National Quarantine and Sanitary Association of the United States in 1860, and particularly in *A Treatise on Hygiene: With Special Reference to the Military Service* by William Alexander Hammond in 1863. These recommendations to improve health and well-being of institutionalized individuals were formally put into practice by the U.S. Sanitary Commission during the Civil War and refined with the many post-war scientific and cultural advances (Powitz, 2023).

The institutional branch of environmental health specialization was formally defined through an American Public Health Association publication, *Healthy Housing*, that was chaired by Charles-Edward Amory Winslow in 1939. The publication formalized four major categories of need and identified 30 specific requirements under those four headings.

1. Fundamental physiological needs that address the thermal environment, clean air, adequate lighting, protection against excessive noise, and provisions for adequate recreational space.
2. Fundamental psychological needs for privacy, opportunities for normal community and family life, provision of facilities that do not impose mental or physical stress, maintaining cleanliness of dwelling and persons, aesthetic surroundings, and concordance with prevailing social standards.
3. Protection against contagion that stresses protection of a safe and sanitary water supply, protection against sewage contamination within and around the vicinity of dwellings, avoidance of unsanitary conditions, exclusion of vermin, food safety, and provision of sufficient space to minimize the danger of contact infection.
4. Protection against accidents that emphasizes sound construction as a basic need along with fire prevention; protection against electrical shock and burns, gas poisoning, falls, and mechanical injuries; and neighborhood protection against hazards and traffic.

Each of these broad categories has been vastly expanded and redefined since its initial publication. The additions and refinements were incorporated into modern practice (National Center for Healthy Housing & American Public Health Association, 2014).

The practice of institutional environmental health has three distinct approaches. The first is obviously regulatory. All group quartering and most non-group quartering facilities such as hospitality and schools are governed by regulations directed to the specific type of institution or cited by reference such as the Americans With Disabilities Act (ADA) or programs like the Resource Conservation and Recovery Act (RCRA) through the U.S. Environmental Protection Agency. Regulatory oversight is a leading component of the profession and assures compliance whether in a regulatory role or working directly for or on behalf of the institution.

The second approach relates more to risk management than to regulation enforcement. Through the application and use of guidelines, as well as accreditation standards and case law (most of which are specific to the healthcare and correctional industry), the institutional environmental health professional is able to work with and integrate existing programs to achieve conformance. While accreditation standards do not have the effect of law, they are more aligned to the actual operation of an institution and become the most significant constituent element in litigation and insurance claims. In addition to this aspect of the practice, considerable time and effort is placed on internal policies and procedures in which we are involved through consultation, evaluation, and auditing (Adams et al., 2008). Most recently, the emphasis is on emergency management and preparedness as well as integrating safety into the many aspects of group quarter living.

The third approach to the practice relates directly to the knowledge, skills, and abilities of the institutional environmental health professional. It is the responsibility of the practitioner to research, guide, and provide education on specific aspects of the institution's operations. The primary focus is on the service corridor, which includes food service, maintenance, laundry, sanitation (i.e., housekeeping), warehouse space, and grounds keeping. It touches on all traditional topics of sanitation that make up the applied science of environmental health as succinctly presented by Ehlers and Steel (1965).

It is the skill of the practitioner to customize each component to the specific population it serves. It therefore requires specific knowledge of operational details, rather than

emphasizing outcomes prescribed by laws and regulations (Bond et al., 1973). The specific operations that touch on environmental health need to be seamlessly incorporated into the institution's purpose (e.g., healthcare, incarceration, education, hospitality) without compromising the function of the institution. This change is the most significant in institutional practice. For instance, in a correctional facility, food code requirements cannot compromise security. It is therefore the responsibility of the institutional environmental health professional to harmoniously integrate public health needs into the penal system. The same holds true for all group-quarter and most non-group quarter institutions.

As an institutional environmental health professional, the most frequently asked questions and concerns relate to general sanitation, specifically decontamination, disinfectant usage, and application, as well as operations and risk assessment related to occupational health and safety. These questions are followed by inquiries, concerns, and complaints about ventilation, particularly the maintenance of temperature, control of odors and allergens, and problems related to air movement and dilution. The most difficult issues to solve are those issues relating to internal audits, material movement, monitoring and environmental sampling, laundry operations, waste management logistics, water treatment and purification, and emergency preparedness.

In terms of preparation for this specialty, it is vital to have a thorough grounding in environmental microbiology, risk assessment, and contamination control, followed by management and communications. You can never learn too much. As such, there is never a dull moment and never a day without a challenge. If interested, we do not know of any institutional environmental health practitioner who is not willing to be a mentor. Reach out. We guarantee that you will learn and enjoy. ✨

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